TR20 GPS Tracker – User Manual V.7.6

Contents 1

1. Product Overview 2

2. For Your Safety 2

3. Getting Started 3

3.1. Hardware and Accessories 4

3.2. Light and Button Functionality 4

3.3. First Use 4

4. SMS Command 5

4.1.1. Change Password 5

4.1.2. Track by SMS 5

4.1.3. Track by calling 5

4.1.4. Find the location by computer 6

4.1.5. Find the location by internet enabled mobile phone 6

5. Messaging and calls

5.1. SOS messaging and calls 7

5.2. Set movement alert 7

5.3 Reset password 7

5.4 Return the tracker to factory settings 7

6. Troubleshooting **8**

7. SMS Command List **9**

1. Product Overview

GPS Tracker provides an easy way to track your targets and provides peace of mind by showing you with your mobile phone or PC the location of your targets via SMS or GPRS.

GPS Tracker has the following features:

- Tracking via SMS or GPRS (TCP/UDP)
- Current location report
- Tracking by time interval
- Two-way conversation
- SOS alert
- Geo-fencing control
- Low battery alert
- Speeding alert
- Three buttons for making phone call and/or sending message

2. For Your Safety

Read these simple guidelines. Not following them may be dangerous or illegal.

- **Switch on Safely** - Do not switch on GPS Tracker when wireless phone use is prohibited or when it may cause interference or danger.

- **Switch off in Hospitals** – Follow any restrictions. Switch GPS Tracker off near medical equipment.

- **Switch off in Aircraft** – Follow any restrictions. Wireless devices can cause interference in aircraft.

- **Switch off when refuelling** – Do not use GPS Tracker when at a refuelling point. Do not use near fuels or chemicals.

- **Switch off near blasting** – Follow any restrictions. Do not use GPS Tracker when blasting is in progress.

- **Qualified Service** – Only qualified personnel can repair GPS Tracker.

- **Water Resistance** – GPS Tracker is not water resistant. Keep it dry. Use waterproof bag or IP rated box if necessary.

3. Getting Started

Important – Insert a sim card of a network of your choice except 3mobile.

3.1 Hardware and Accessories

GPS Tracker includes:

- GPS Tracker main unit with battery
- USB Power Cable
- Car Charger
- Wall Charger
- Hands-free Earpiece with Microphone
- Auxiliary battery connection kit

3.2 Light and Button Functionality

Your GPS Tracker has four buttons and three LED lights with three different colours to indicate the status of the unit.

Red LED - indicating power status	
Off	Power is off or charging is complete
Flashing (every 0.1 second)	Low power
On	Charging
Flashing (on 1 second, off 2 seconds)	Working

Blue LED - indicating GPS status	
On	One button is pressed
Flashing (every 0.1 second)	The unit is being initialized
Flashing (on 0.1 second, off 2.9 seconds)	GPS Tracker has a GPS fix
Flashing (on 1 second, off for 2 seconds)	GPS Tracker has no GPS fix

Green LED - indicating GSM status	
On	Call is coming in / being made
Flashing (every 0.1 second)	The unit is being initialized
Flashing (on 0.1 second, off 2.9 seconds)	GPS Tracker is connected to the GSM network
Flashing (on 1 second, off 2 seconds)	GPS Tracker not connected to the GSM network

Buttons / Switches	
Power Button	To turn GPS Tracker on/off
SOS Button	Press SOS button to make a phone call and/or send an SMS to the pre-programmed phone number. Press it to receive an incoming call. Press it to increase volume during conversation
Call B	Press B button to make a phone call and/or send an SMS to the pre-programmed phone number. Press it to reject a call, cancel calling or complete a conversation.
Call C	Press C button to make a phone call and/or send an SMS to the pre-programmed phone number. Press it to decrease volume during conversation.

3.3 First Use

IMPORTANT: Please read this manual before using your GPS Tracker.

Ensure that your GPS Tracker has a working SIM installed.

- Check that the SIM lock code is turned off. The unit will accept any SIM card except 3 Mobile or any operator that requires you only use a 3G handset / unit (currently only 3 Mobile)
- Test the SIM in a phone to make sure it can send and receive SMS
- Take a note of the telephone number associated with the SIM
- Check that the SIM has not run out of credit
- Insert a valid SIM card into the slot in the side of the GPS Tracker observing the correct position to insert.
- If you require the function of sending an SMS location report to the authorized phone number when it makes a call to the GPS Tracker, please make sure the SIM installed supports displaying caller ID.

Charge the battery for at least 3 hours in power-off status using the wall charger or car charger. Red light is on during charging and goes dim when charging is complete.

Slide the power button to the on side and wait for about 20 seconds. It will then enter standby mode. It is suggested that you are located outside or near a window where the GPS Tracker can receive better GPS when you turn on the device.

Check that the Red LED (power) on GPS Tracker is flashing (on for 1 second and off for 2 seconds).

Check that the Green LED (GSM) is flashing (on for 0.1 second and off for 2.9 seconds).

Check that the Blue LED (GPS) is flashing (on for 0.1 second and off for 2.9 seconds).

Important ****** is users password, and the default password is 000000

4. Basic SMS Commands

All basic commands to the GPS Tracker should be sent via SMS (text message) from a mobile phone.
The GPS Tracker will only accept commands from a user with the current password, commands with the wrong password are ignored. The default password is 000000, it is recommended that this is changed when first setting up the GPS Tracker.

4.1.1. Change Password

To change the password enter the command W******,001,###### Note ****** is the default password and ###### is the new password and must be 6 digits.
Example of the command W000000,001,123456
This will alter the password to 123456 which must then be used in all future commands.
N.B. The 'W' must be upper case.

4.1.2. Track by SMS

To find the current location of the tracker and for the tracker to send an SMS of its location, enter the command W******,000
Example of the command W000000,000
On receipt of the command the tracker will report the longitude and latitude by SMS in the following format.
Latitude = 22 32 36.63N. Longitude = 114 04 57. 37E. Speed = 2.6854km/h 2008 – 12-24, 01:50.

4.1.3. Track by Calling

An alternative way to find the current location of the tracker and for the tracker to send an SMS of its location is to call the GPS tracker using your mobile phone. After listening to the ring for 10-20 seconds end the call. In about 15 seconds your mobile phone will receive an SMS with longitude and latitude co-ordinates.

PLEASE NOTE

If the GPS Tracker responds with a message that starts with "Last.... this indicates its last position and not the current location, this can occur if the unit has only just been switched on. For further information see section 3 Blue LED status and section 6 Troubleshooting.

4.1.4. Find the location by computer

You can use the co-ordinates supplied in the SMS to your mobile phone to find the location of the tracker.
On a computer in the web browser open http://maps.google.co.uk.
In the search box, input the latitude and longitude received by SMS and click the search button.
For example, if the SMS received was
Latitude = 22 32 36.63N. Longitude = 114 04 57.37E. Speed = 2.6854km/h 2008 – 12-24, 01:50.
In the search box you would enter: 22 32 36.63N 114 04 57.37E click the search icon and the location of the Tracker can be viewed.

4.1.5. Find the location by Internet Enabled Mobile Phone

To find the current location of the Tracker and for the Tracker to send an SMS to your mobile phone with a http link to link directly to Google Maps, enter the command W******,100
Example of the command W000000,100
This will allow you to click on the link to find the location of the Tracker directly from the mobile phone.
Please note only internet enabled mobile phones will allow this option.

5.1 SOS Messaging and Calls

It is important to assign a mobile number to the SOS and call functions as this will allow the GPS Tracker to use other features such as movement and low battery SMS alerts.

To set up mobile numbers to receive SMS and calls from the SOS call B and call C buttons when pressed enter the following commands.

For the SOS button, W******,003,3,1, <Telephone Number>
Example W000000,003,3,1,123456789
For Button B, W******,003,3,2, <Telephone Number>
Example W000000,003,3,2,234567891
For Button C, W******,003,3,3, <Telephone Number>
Example W000000,003,3,3,345678912

On receipt of each of the commands the GPS Tracker will confirm by SMS the phone number has been sent.
When either of the SOS calls B or call C buttons are pressed, a message will be sent and a call will be made to the programmed numbers, if the Tracker holder is using an earpiece they will be able to talk with the recipient.

5.2 Set Movement Alert

If the GPS Tracker is to remain static for a period of time a movement alert can be activated to warn if the GPS Tracker is moved from its current location.
Example W000000,006,04
On receipt of the command the GPS Tracker will confirm its location and setting of the movement alert by sending an SMS to the mobile phone number that has been authorised to receive SOS calls. To turn off this feature enter the following command W000000,006,00

5.3 Reset Password

If you forget your password, send an SMS to the tracker that says: Default?
Then within 120 seconds send another SMS to the tracker: W888888,999,666

5.4 Return the Tracker to Factory Settings

To return all settings (except for the password) to factory default settings.
Send an SMS to the tracker that says: Default?
Then within 120 seconds send another SMS to the tracker: W****,990,099###**

6. Troubleshooting

Problem: Unit will not turn on when power switch is at ON position	
Possible Cause:	**Resolution:**
Power switch was not pushed properly	Power switch was not pushed properly. Check and make sure the power button is pushed to **On** side.
Battery needs charging	Charge battery for at least 3 hours see Section 3.3

Problem: Unit will not reply with SMS	
Possible Cause:	**Resolution:**
Green LED is flashing (on 1 second, off 2 seconds)	Ensure GPS Tracker in is coverage area
Green LED is flashing (on 0.1 second, off 2.9 seconds)	SIM may be roamed to another network for 'Emergency Calls Only'. Switch off, remove SIM, re-insert SIM and switch on.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak time/ during maintenance.
Unit is sleeping	Cancel sleeping mode – See Section 7
Wrong password in your SMS / SMS format	Write correct password or SMS format
The SIM in GPS Tracker has run out of	Replace or top up the SIM card

Problem: Green LED is Flashing (on 1 second and off 2 seconds)	
Possible Cause:	**Resolution:**
No GSM signal	Check with a mobile phone to see if there is a signal in the area or try to call the unit to see if you hear a ring tone.
No SIM card	Insert a working SIM card. Check in phone that the SIM can send SMS message.
SIM card has expired	Check in phone that the SIM can send SMS message. Replace SIM card if needed.
SIM has PIN code set	Remove PIN code by inserting SIM in your phone and deleting the code.
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled.
Battery is low	Recharge the unit and the GSM will start working.

Problem: Blue LED is Flashing (on 1 second and off 2 seconds) or the SMS received starts with 'Last…'	
Possible Cause:	**Resolution:**
GPS cannot pick up satellite data	Try repositioning the GPS in an area that has less obstructions between the GPS and the sky.
Bad GPS reception	Place the front side of GPS Tracker towards sky.
Battery is low	Recharge the unit and the GPS will start working.

7. SMS Command List

Remarks: ****** is user's password and the default password is 000000.

Description	Command	Remarks
Get current location	W******,000	Get current location of GPS Tracker
Change user's password	W******,001,######	****** is old password ###### is new password
Set interval for automatic timed report	W******,002,XXX	XXX is the interval in minute. If XXX=000 it will stop tracking
Set preset phone number for SOS button, Call B and Call C	W******,003,F,P,T	F=0, to turn off this function; (default) F=1, only sending SMS; F=2, only calling preset phone number; F=3, both SMS and calling P=1, set an authorized number for SOS button P=2, set an authorized number for Call B P=3, set an authorized number for Call C T: Preset phone number. Max.16 digits
Set over speed alert When GPS Tracker speeds higher than the preset value, it will send an SMS to the SOS preset number.	W******,005,XX	XX (the preset value of speed) =00 , to turn off this function =[01, 20] (unit: 10Km/h) For example: W000000,005,08 it will send alert when it is over 80Km/h
Set Movement alert When GPS Tracker moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	W******,006,XX	XX (preset distance to original place) =00 to turn off this function =01 30m =02 50m =03 100m =04 200m - **RECOMMENDED SETTING (TO ELIMINATE FALSE ALERTS)** =05 300m =06 500m =07 1000m =08 2000m

Sleep Mode Put the GPS Tracker into sleep mode to conserve battery power. **Power Down** **To power down the GPS Tracker when inactive for a preset length of time.**	W******,021,**XX###** **W******,026,XX**	Level 1: The GPS will be working for the first 3 minutes and then shut down for 1 minute and then work again for another 3 minutes etc. Level 2: The GPS will be working for the first 2 minutes and then shut down for 1 minute and then work again for another 2 minutes etc. XX (sleep mode) =00 Sleep mode turned off =01 Level 1 Sleep mode =02 Level 2 Sleep mode Example: W000000,021,02### (### is the ending character) In Power Down mode, GPS stops working and GSM enters sleep and stops Sending out messages until it is activated by message, incoming calls or triggered by buttons. XX=01-99, to turn on Power Down after a specified period of being inactive. It is in units of one minute. (In the example below the GPS unit will power down after 10 minutes of inactivity). Example: W000000,026,10
Power Down **To turn off power down function.**	**W******,026,00**	**To turn off power down function.**

Extend Settings	W******,008,ABCDEFG###	**A=0**, turn off the function of sending an SMS location report to the authorised phone number when it makes a call to GPS Tracker. **A=1**, turn on the function of sending an SMS location report to the authorised phone number when it makes a call to GPS Tracker. **B=0**, location data of NMEA 0183 GPRMC will be interpreted into normal text for easy reading. For example: Longitude = 114 degree - 04 cent -57.74 second Latitude = 22 degree -32 cent -40.05 second **B=1**, location data complies with NMEA 0183 GPRMC protocol. For example: $GPRMC,072414.000,V,3114.3763,N, 12131.3255,E,0.00,0.00,050805,*00 **C=0**, turn off the function to automatically hang up an incoming call. **C=1**, turn on the function to automatically hang up an incoming call after 4 - 5 rings. **D=0**, Turn off the function of sending an SMS when GPS Tracker is turned on. **D=1**, Turn on the function of sending an SMS to SOS number when GPS Tracker is turned on. **E=0**, reserved **E=1**, GPS Tracker shuts down automatically when the power voltage lower than 3V. **F=0**, Turn off the alert when GPS Tracker enters GPS blind area. **F=1**, Turn on the alert when GPS Tracker enters GPS blind area. SMS is to be sent to SOS number **G=0**, 3 LED lights work normally **G=1**, 3 LED lights stop flashing when GPS Tracker working. **###** is the ending character (default value is: ABCDEFG=1000100)